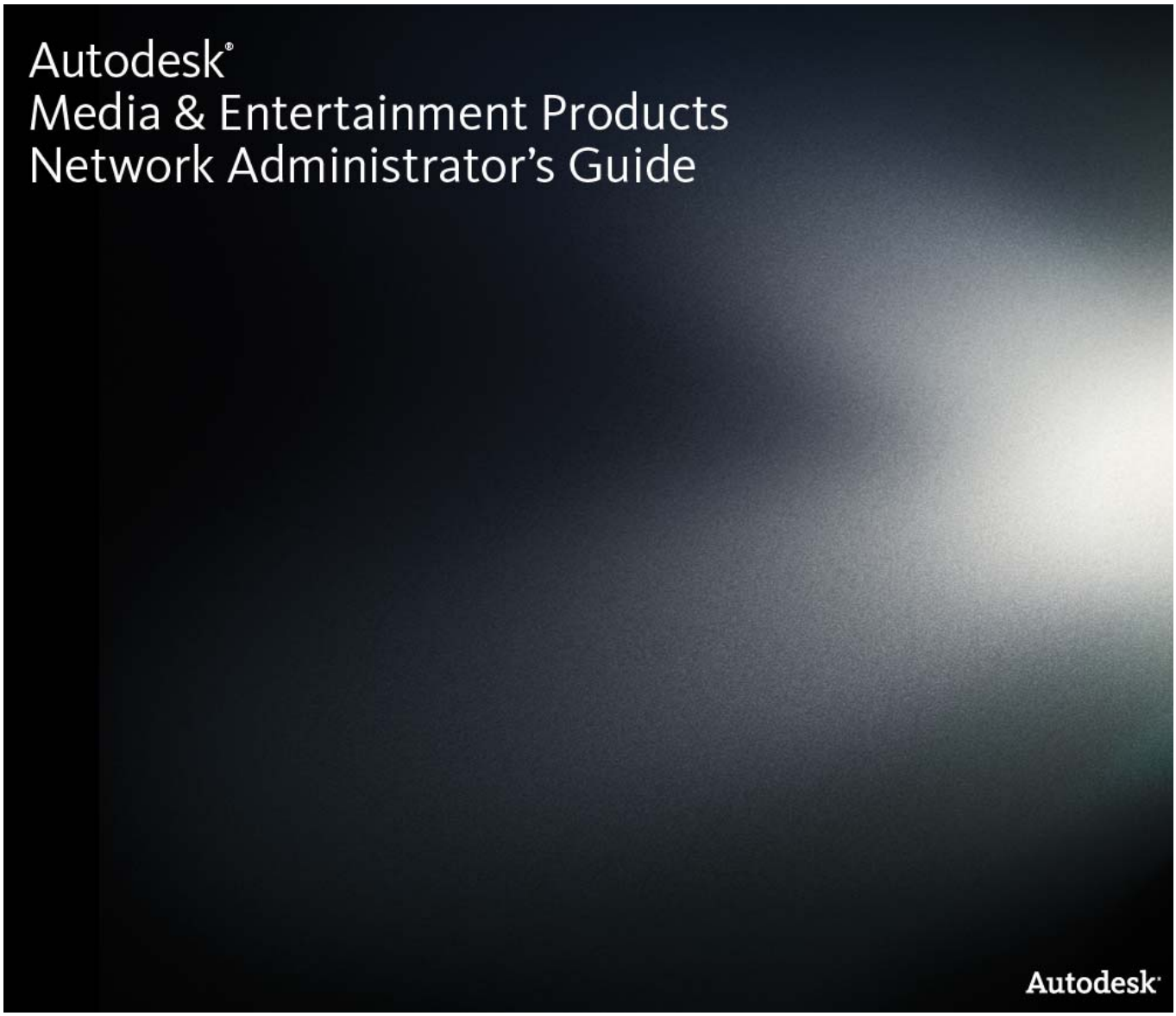
Autodesk®
Media & Entertainment Products
Network Administrator's Guide
Autodesk

2012

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Network Administration and Deployment

Network Administration and Deployment

Understanding Deployments

A deployment provides an efficient way to install one or more Autodesk products with a standard configuration on multiple computers. The files required for the installation process are stored on the network, in an administrative image, in a folder to which all users have shared access. To install the products, users navigate to the deployment folder and double-click an installer shortcut (.LNK file).

NOTE The installer referenced in this guide applies only to Windows operating systems. However, some of the concepts and procedures may be useful to administrators of Autodesk products on Linux or Mac OS X networks.

Some essential facts about deployments:

- Deployments can be created for network licenses or multi-seat stand-alone licenses.
- Multiple deployments with different configurations can exist in the same folder, sharing the same administrative image, which is a set of installation files.
- An existing deployment can form the basis for creating another deployment with a different configuration.

- Deployments can be configured to generate a log file for each installation. Network administrators can use these log files for troubleshooting.

Planning a Deployment

Check Deployment Readiness

This checklist identifies preliminary tasks to complete, information to gather, and decisions to make before creating a network deployment.

TIP To review deployment settings, including details of product configuration, you can create a test deployment. After the learning process, you can delete the test deployment.

Deployment Checklist

- ❒ Review the system requirements by clicking the System Requirements link in the installer. Confirm that your network, servers, and client computers meet these system requirements.
- ❒ Understand the general process for installing the type of license you have purchased. For a network license deployment, know the license server name(s), and the type of license server model that was specified at the time of license purchase. For more information, see Determine the License Server Model (page 4)
- ❒ Install and activate any network administrator tools and utilities. For example, if you are using a network license, install the Network License Manager from the installer.
- ❒ Locate your product serial number and product key. These are located on the outside of the product packaging, or in an email message if you downloaded your product or upgrade from Autodesk.
- ❒ Identify a network location for deployments, and create a shared folder to contain deployments.

Deployment Checklist

- ❒ If your product has language options, decide which language to use for each deployment.

  NOTE Languages can be included when you initially create a deployment, or when you create a new deployment configuration, but not when you modify a deployment.

- ❒ Determine whether to create log files on individual computers, in the deployment folder, or both.

- ❒ Determine whether to run installations in silent mode.

  NOTE When products are installed in silent mode, the user's system can automatically reboot without warning when the installation is complete.

- ❒ Identify other applicable configuration settings such as defined search paths, locations of support files, and whether to automatically install service packs.

Determine the Installation Type

When you set up your deployment, you specify the installation type by target platform and license type.

Target Platform

Specify either a 32-bit or 64-bit platform, depending on the operating system of the computers that will use the deployment. For some Autodesk products, you can install a 32-bit version on a 64-bit operating system. For more information, consult product-specific documentation.

License Type

Specify one of the following license types in the installer, based on the type of license you purchased:
Network License With this license type, you install the product to computers on a network, along with the files and registry entries that allow the product to communicate with the Network License Manager (NLM) on one or more

servers. You also define the NLM configuration. When an Autodesk product starts up on a client computer, it requests a license from NLM, then returns it when the product is stopped. Computers running the product based on a network installation do not require individual activation. For more information, see Choose a License Server Model (page 4).

A major advantage of a network license is that you can install the product on more systems than the number of licenses you have purchased (for example, purchase 25 licenses, but install on 40 computers). At any one time, the product runs on the maximum number of computers for which you have licenses, so you get true floating licenses.

Stand-Alone License This license type is for multi-seat stand-alone installations where a single serial number and product key are used to install products on multiple computers. With this license type you do not use NLM to manage product licensing. Instead, installation, registration, and activation occur on each computer. After the first activation using the multi-seat stand-alone serial number and product key, activation occurs automatically for all computers using this deployment, as long as they are connected to the Internet.

Determine the License Server Model

If you choose the Network License option, you need to know which license server model will be used to distribute the product licenses. This was specified as one of the following when the license was purchased:

- **Single license server model**. The Network License Manager (NLM) is installed on a single server, so license management and activity is restricted to this server. A single license file records the total number of licenses available on the server.
- **Distributed license server model**. Licenses are distributed across more than one server. A unique license file is required for each server. To create a distributed license server, you must run NLM on each server that is part of the distributed server pool.
- **Redundant license server model**. Three servers are available to authenticate each license. With this configuration, licenses continue to be monitored and issued as long as at least two servers are functional. The license file on all three servers is the same, and you must run NLM on each server.

Each of these license server models is described in detail in the *Licensing Guide*. It is recommended that you also read that guide before you deploy the product.

You can find the *Licensing Guide* by clicking the *Installation Help* link in the installer.

Configure Individual Products

When you create a deployment, you can accept the default settings for any product you choose to install, or you can configure these settings to create a custom deployment. Configuration details for each product are usually covered in a product-specific appendix to this guide. It is recommended that you review these appendices, and determine the right settings for each product in your deployment.

To configure product settings, on the Create Deployment page of the installer, ensure that the product is selected for installation, and then click the product in the scrolling list. The configuration panel opens.

IMPORTANT The configuration settings you choose apply to every instance of the product installed from the deployment. After the deployment is created, these settings can be changed only by modifying the deployment. For more information, see Modify a Deployment (page 10).

Most products allow you to choose an installation type, either Typical to select the most common options, or Custom to review options in more detail.

Some other common product settings are as follows:

- User preferences for product behavior
- Installation of support files, such as material libraries
- Access to online resources

Click Installation Help for further information specific to your product or suite.

Include Service Packs

Most products provide the option to include service packs in a deployment. You can download a service pack from *autodesk.com*, or use a service pack stored on a local hard drive or network location. In either case, the service pack will be applied only after the installation of the main product is completed.

If you select the Install Service Pack from *autodesk.com* button, the service pack will be automatically downloaded and you will not need to extract the MSP file.

You can add multiple service packs to a deployment only if the service packs are locally stored, not if you are downloading them from *autodesk.com*.

NOTE If the deployment process for the main product is canceled or fails, the service pack installation will automatically be canceled.

Two options are available for including service packs in deployments:

- **Append the Service Pack onto the Deployment**. When you append a service pack, the service pack is applied to the current deployment only. Multiple service packs may be appended to a deployment. The service pack file is included in the deployment and the service pack is applied after the product is deployed.
- **Merge the Service Pack into the Administrative Image MSI File**. With this option, the service pack is merged into the administrative image. Once merged, a service pack cannot be removed from the administrative image.

To extract a Microsoft Installer Patch (MSP) file from a service pack

1. Download the service pack from the Support site for your product.
2. Review the service pack *Readme* file for information about patch usage.
3. Open a Windows command prompt and enter the patch file name followed by the /e switch and a target file name. Here is the general command format:

   ```
   <local_drive:>\<patch_name>.exe /e
   <local_drive:>\<patch_name>.msp
   ```

   Here is an example:

   ```
   ProductSP1.exe /e ./ProductSP1.msp
   ```

   where *ProductSP1.exe* is the name of the downloaded patch and *ProductSP1.msp* is the name of the extracted file. Using './' in front of the extraction file name places the extracted file in the same folder as the original executable. The "e" command line switch extracts the MSP file from the executable.

To include a service pack with the deployment

To include a service pack with a deployment, an MSP file must be extracted from the downloaded service pack executable.

1. On the Include Service Packs page, click the Browse button.
2. In the Open dialog box, locate the service pack you want to include with the deployment.
3. Select the MSP file and click Open.
4. Specify whether you want to append the service pack to the deployment or merge the service pack into the administrative image.
5. Click Next.

Create a Network Share

After you have fully prepared for creating a deployment, you are ready to set up and distribute Autodesk products from a shared network location. A network share is an installation folder to which all users' computers have access. You create deployments in the network share, and point users to this location to install the program. Any subfolders inside a network shared folder are automatically shared.

If you select the option to create a network log file, then during installation, the user's computer writes an entry to the log file in the network share. Therefore, this option requires that users have read-write access to the network share.

You can create a deployment folder on a network share as part of the process of creating the deployment. If you plan to create several deployments of the same product or suite, configured for different user groups, then these deployments can share the same administrative image, and the shortcuts can reside in the same folder. However, if you plan to create deployments of different products or suites, it is recommended that you create separate product folders on the network share before starting to create deployments.

For more information on how to create a network share, see the documentation for your operating system.

Creating a Deployment

Create an Original Deployment

Use this procedure to create a new deployment from the installer. In the process, you can create a **default deployment** by accepting the default configuration of each installed product, or you can create a **custom deployment** by customizing the configuration settings of one or more products in the deployment.

To create an original deployment

1. Close all running applications on your computer.
2. Start the installer.
3. On the first page, if language choices are available, select a language for the deployment instructions, and then click Create Deployment.
4. On the Configure <name> page, **Administrative Image** section, specify the following data:

    a. Enter a descriptive name for the deployment that identifies the user group, platform, or other attribute to differentiate this deployment from others.

    b. Enter the path or browse to the shared network folder where you want to create and store your administrative image. Users install the program from this location.

    NOTE For information on how to create a network share, see Create a Network Share (page 7).

    c. Select either 32-bit or 64-bit for the target operating system.

    d. Choose whether to include only the products required by this configuration.

    - If selected, the deployment cannot be modified in future to include additional products.
    - If unselected, the administrative image will include all possible products, so the current deployment can be modified in any way.

5 In the **Installation Settings** section, select one or more of these options:

- **Silent mode** runs the installation in background, without prompting the user for any input.

  NOTE Silent mode can automatically restart the user's computer without warning after installation.

- **Log file on each workstation** can enable users to review and troubleshoot their own installations.
- **Network log file** in a central location supports the network administrator in reviewing data for all installations.

  NOTE The network log file must be in a shared folder where users of the deployment have read-write access. Otherwise, log data for user installations cannot be written to the log file.

6 Review and accept the Autodesk software license agreement.

7 On the Product Information page, select your license type, and enter your serial number and product key. If this data is valid, green check marks appear.

8 If you are sure that the product information is correct, click Next.

9 On the Create Deployment Configuration page, select the products to include in the deployment.

10 If you need to configure settings for a product, click the product name to open the configuration panel where you can review and change settings.

   IMPORTANT The configuration settings you choose apply to every instance of the product installed from the deployment. After the deployment is created, these settings can be changed only by modifying the deployment.

   Configuration settings vary widely by product. For more information, click Installation Help to see the product documentation.

11 Click Create to create the deployment.

   After the deployment is created, the Deployment Configuration Complete page opens, presenting useful paths to the new deployment and a link for registering products online.

12 After you have finished using this screen, click Finish.

Modify a Deployment

Inside each deployment folder is a Tools folder that contains a shortcut (.LNK file) named Create & Modify a Deployment. You can use this shortcut to

- Create a new deployment configuration
- Create a new deployment configuration that uses an existing deployment as a template
- Modify the configuration of an existing deployment

The installer pages guide you through the process, similar to when creating an original deployment. If your original administrative image was set to include only products required by the deployment configuration, then your options for creating or modifying the deployment are limited. In particular, you cannot add products to the deployment that are not in the original administrative image. Conversely, if your original administrative image was not set to include only the required products, then it includes all product files. As a result, you can add products when you modify this deployment or when you create new deployment configurations.

To modify a deployment

1. Open the shared network folder that contains the deployment.
2. In the Tools folder, double-click the Create & Modify a Deployment shortcut.

   The installer opens at the Modify Deployment page.
3. Click through the deployment configuration pages, and select the required options.
4. Click Create Deployment.

Direct Users to the Administrative Image

After you have created the deployment, users can install the program using the shortcut (.LNK file) located in the deployment folder with the administrative image. The shortcut name matches the deployment name that you specified when creating the deployment. Notify users of the shortcut name and location. Instruct them to double-click the shortcut to start the installation. If the deployment uses silent mode, advise users to keep other applications closed during the installation, because their computers might restart automatically after products are installed.

Alternative Distribution Methods 2

Alternative Distribution Methods

Overview of Distribution Methods

In addition to standard deployments, you can use the following alternative methods of distributing Autodesk programs on Windows platforms:

- **Scripting**. See Use Scripts to Deploy the Program (page 11).
- **Group Policy Objects (GPOs).** See Use Group Policies to Run a Deployment (page 17).
- **Microsoft System Center Configuration Manager (SCCM)**. See Use Microsoft SCCM to Deploy Products (page 20).
- **Imaging Software.** See Distribute Products Using Imaging Software (page 24).

Use Scripts to Deploy the Program

A script executes a command or a set of commands. Scripts are similar to batch files but are more flexible. Installation scripts are most useful for stand-alone installation of programs on computers that are connected to a network. Scripts are also useful for installing service packs, extensions, and object enablers on a network.

You create a script by using a text editor such as Notepad and then saving it in ASCII format in a file with the .VBS file extension. The script consists of one or

more commands, as well as command switches that specify options, and flags that modify the options. An installation script also contains path names.

An installation script points to the location of the product's *setup.exe* file. You must point to the *setup.exe* file on your installation media. For example:

Autodesk product CDROM1\setup.exe

In order for your Autodesk product to run properly, you must have Administrator permissions on the computer where the program is being installed, and the following software must be installed:

- Microsoft Internet Explorer version 6.0 Service Pack 1 or later

  You can download Microsoft Internet Explorer from the Microsoft website by visiting *www.microsoft.com*.

-
- Microsoft Scripting Engine

  The sample scripts in this section are based on Microsoft Scripting Engine 5.6, which works with both VBScripts and JavaScript. You can download the free scripting engine from the MSDN website. Go to *www.msdn.microsoft.com* and search for Scripting. Sample scripts and Help files are also available there.

A Sample Installation Script

The sample script in this section installs the program in a typical configuration. To make it easy to copy this sample script and substitute your own information, the same names are used throughout for variable items. The log file name is based on the product being installed. You can either use the log file name in the script or change it to something else.

Serial number prefix: 123

Serial number: 12345678

A sample script for a silent installation of this program uses the syntax shown in this section.

Scripted AutoCAD installation

```
' Scripted installation for AutoCAD 2012 - English
Option explicit

' Create variables
dim shell
```

```
dim productType
dim strADSKSNPrefix
dim strADSKSNNumber
dim strADSKProdKey
dim strLocale
dim strACADStandaloneNetworkType
dim strADSKLicenseServerType
dim strADSKLicenseType
dim strADSKServerName
dim strADSKServerPath
dim strADSKServerHostID
dim strADSKPath
dim strSourcePath
'

' Script initialization
Set shell = CreateObject("WScript.Shell")
productType = "ACAD"

' Serial Number information
strADSKSNPrefix = "123"
strADSKSNNumber = "12345678"
strADSKProdKey="ABCDE"
'Locale information, for example en-US = US English, de-DE
 = Deutchland German, ja-JP = Japan Japanese
strLocale="en-US" ' en-US, de-DE, ja-JP
'

' Source to install from (e.g. D: is assumed to be Install
 Media)
strSourcePath = "D:\"
'
' Destination to install to
strADSKPath =
Shell.ExpandEnvironmentStrings("%ProgramFiles%") +
"\Autodesk\" + "AutoCAD 2012"
If strLocale <> "" Then strADSKPath = strADSKPath + " " +
 strLocale
strADSKPath = strADSKPath + "\"

' Uncomment the relevant version of your installation -
Default is Standalone
' For Standalone
RunStandaloneInstall()
'
```

```
' For Single Network License Server
'RunSingleLicenseServerInstall()
'
' End of Script
Wscript.quit()
'
Function RunStandaloneInstall
  shell.run DefaultCommand(),2,1
end function
'
Function RunSingleLicenseServerInstall
' Update with the correct information for the license server
strACADStandaloneNetworkType = "3"
strADSKLicenseServerType = "Single Server License"
strADSKLicenseType = "Network License"
strADSKServerPath = "myFlexNetServer"
' HOSTID or MAC address
strADSKServerHOSTID = "000000000000"
'
' Consolidate the two values
strADSKServerPath = strADSKServerPath & " " &
strADSKServerHOSTID
shell.run MakeCommand(),2,1
end function
'
Function DefaultCommand
dim retString
' /qb for silent install ' /c [key] override parameters
for the key
' /w wait until installation completes before returning to
 script
' /o reboot after install completes
retString = """" & strSourcePath & "\setup.exe" & """" &
" /t /qb "
If strLocale <> "" then
        retString = retString & "/Language " & strLocale
End if
retString = retString & " /c " & productType & ": "
retString = retString & "INSTALLDIR=" & """" & strADSKPath
 & """" & " "
retString = retString & "ACADSERIALPREFIX=" &
strADSKSNPrefix & " "
```

```
retString = retString & "ACADSERIALNUMBER=" &
strADSKSNNumber & " "
retString = retString & "ADLM_PRODKEY=" & strADSKProdKey
& " "
retString = retString & "InstallLevel=5 "
DefaultCommand = retString & " "
end function
'
Function MakeCommand
dim retString
retString = DefaultCommand() & " "
retString = retString & "ACADSTANDALONENETWORKTYPE=" & """
 & strACADStandaloneNetworkType & """ & " "
retString = retString & "ACADLICENSESERVERTYPE=" & """ &
 strADSKLicenseServerType & """ & " "
retString = retString & "ACADLICENSETYPE=" & """ &
strADSKLicenseType & """ & " "
retString = retString & "ACADSERVERPATH=" & """ &
strADSKServerPath & """ & " "
MakeCommand = retString
end function
```

Use Switches and Flags in Scripts

The following table lists a few of the switches and flags that are relevant to installation. Individual products use others that reflect their installation data and process.

NOTE You must set the installation switch to INSTALLDIR=. If this is not done, other programs such as the License Transfer Utility are not installed.

Switches in Installation Scripts

Switch	Description
INSTALLDIR=	Specifies the location to install the product.
ACADSERIALPREFIX=	Specifies the digits that precede the hyphen in the serial number.

Switches in Installation Scripts	
Switch	**Description**
ACADSERIALNUMBER=	Specifies the serial number.
ADLM_PRODKEY=	Specifies the product key (found on the same label as the serial number).

User Interface Flags	
Flag	**Description**
q	Designates that the installation is performed in silent mode.

Run Scripts

After creating a script, you move it to a server or use a mapped drive letter or a UNC (universal naming convention) path. If you place it on a server for users to run, create a shared folder on the server, and then add users to the share with the rights they need. Users who just run the script need read-only access to the shared folder.

Next, in another server location, create a directory for each product you want to install. Choose a location for this directory that will not be changed so that you can point to the MSI files in your scripts. Copy the installation files to this directory from the product media. You may also want to create directories for service packs, extensions, and your own customization tools.

Use one of the following methods to run an installation script:

- Run the script manually at each individual computer. To run the installation, paste the script into the Run dialog box or run it from the Windows command prompt.
- Send an email to each user who should run the script, with the UNC path and any required instructions.
- Email the script to each user with instructions for use.
- Set up the script so that it runs on login.

Use Group Policies to Run a Deployment

With group policies, you can advertise and install a program by assigning a deployment to computers. A deployment that is assigned to a computer can be used by any user of that computer. Generally, you would assign the deployment to a computer that is shared by several users.

NOTE Autodesk products are designed to be installed on a computer so that any user who logs on to the computer can run the software. If you assign a deployment to a specific user rather than a computer, you may encounter problems when a second specified user tries to install or uninstall a copy of the program.

The following section outlines the advantages and disadvantages of using group policies.

Advantages

- Works well with deployment functionality.
- Allows you to add custom files to a deployment.
- Allows deployment to computers rather than to users.

Disadvantages

- Prohibits the passing of command-line parameters to an MSI executable. You must use scripts instead.
- Prohibits customization of application settings, other than what is set while creating a deployment.

Autodesk products typically have software prerequisites that must be installed on a computer to support the Autodesk product. In particular, Microsoft .NET Framework 4.0, Fusion, and the Fusion plug-in must be installed prior to using group policies. Before deploying products, consult the *System Requirements* for each product, and ensure that these are installed on the computer where the program will being installed.

Distributing a program through group policies involves three main steps:

1. **Create an application distribution share point.** The application distribution share point is created when you create a deployment. See Create an Original Deployment (page 8) to create a deployment.
2. **Assign the deployment to a computer.** See Use Group Policies to Assign a Deployment to Computers (page 18).

3 **Verify the installation.** Confirm that the program has been correctly installed. See Verify a Group Policy Deployment (page 20).

Use Group Policies to Assign a Deployment to Computers

Perform the following procedures from a Windows XP computer or a Windows 2000 or 2003 server that has Group Policy Management Console installed, and has access to the Active Directory server.

NOTE For more information, go to *Microsoft TechNet* and search for "Group Policy Management Console".

To assign a deployment to a computer

1 Start the Group Policy Management Console (*gpmc.msc*).

2 Right-click the organizational unit where you want to create the group policy object (GPO). Then select Create and Link a GPO Here and name the Group Policy.

3 Edit the policy.

4 In the Group Policy Object Editor dialog box, under Software Settings, right-click Software Installation, and click New ➤ Package.

5 In the Open dialog box, navigate to the administrative image created by the deployment process. Navigate to *AdminImage*\<*processor type*>\<*product name folder*>. The processor type is either x86 or x64, depending on the processor type for which you created your deployment.

Examples

For x86 deployments:
*server123**Deployment**AdminImage**x86**acad*

For x64 deployments:
*server123**Deployment**AdminImage**x64**acad*

6 Select the Windows Installer Packages file called *acad-<deployment name>-for-GPO.msi*. Click Open.

If the deployment was called “Design 2012 32 bit,” then the deployment’s MSI file would be *acad-Design 2012 32 bit-for-GPO.msi*.

7 In the Deploy Software dialog box, select Advanced and click OK.

8 In the Properties dialog box, Modifications tab, click Add.

9 In the Open dialog box, select the Transform Package file called *acad-<deployment name>.mst*). Click Open.

10 In the Properties dialog box, Modifications tab, click Add.

11 In the Open dialog box, navigate to *<deployment location>\Tools* and select the Transform Package file called *gpo.mst*.

12 Click OK to complete the package.

Adding a Language Pack

If your product uses language packs, you may need to add a language pack to your package.

To add a language pack

1 In the Group Policy Object Editor dialog box, under Software Settings, right-click Software Installation for the same object, and then click New ➤ Package.

2 In the Open dialog box, navigate to the location of the administrative image that you specified when creating the deployment. Navigate to *AdminImage\<processor type>\<locale>\acad*. Click Open.

The *<locale>* used in the examples is *en-us* for US English.

Examples
For x86 deployments: *\\server123\Deployment\AdminImage\x86\en-us\acad*
For x64 deployments: *\\server123\Deployment\AdminImage\x64\en-us\acad*

3 In the Deploy Software dialog box select Advanced and click OK.

4 In the *<product name>* Properties dialog box, Modifications tab, click Add.

5 In the Open dialog box, select the Transform Package file called *acad-<deployment name>.mst* located at *AdminImage\<processor type>\acad*. Click Open.

6 In the *<product name>* Properties dialog box, Modifications tab, click Add.

7 In the Open dialog box, navigate to *<deployment location>\Tools* and select the Transform Package file called *gpo.mst*.

8 Click OK to complete the package.

The GPO is now assigned to all computers that are members of the organizational unit for which the GPO was created. The next time a computer in the organizational unit is restarted, the program will be installed and will be available for all users of the computer. See Verify a Group Policy Deployment (page 20) to confirm that the group policy has been created correctly.

Verify a Group Policy Deployment

To verify that this deployment has been correctly assigned to a computer, restart a computer that is in the organizational unit for which the group policy was created. The program installation begins before the login prompt is displayed. The operating system displays group policy messages, including a message indicating the installation of any managed software.

After logging in, double-click the program icon on the desktop to complete the installation and start the program.

NOTE If problems arise, an entry is logged in the system's Event Viewer, under Applications.

Use Microsoft SCCM to Deploy Products

Microsoft System Center Configuration Manager (SCCM) allows you to manage software distribution to selected target systems through a remote process. For more information about this topic, go to *Microsoft TechNet* and search for "System Center Configuration Manager".

NOTE Microsoft .NET Framework 4.0 must be installed on each target computer before using SCCM to distribute Autodesk products.

To deploy Autodesk products with SCCM, it is recommended that you follow this process:

1 Identify or create a collection of target computers to receive the software package.

2 Create a source directory using the Create Deployment procedure in the installer. See Set Up a Source Directory for SCCM (page 21).

3 Create an SCCM package to deploy to your target systems, and notify users that the software package is available. See Create the SCCM Software Installation Package (page 21).

NOTE Distribution of DirectX 9.0C to Windows XP by SCCM is not supported. For an Autodesk product to run properly, you must manually install DirectX 9.0C from the product media (<media>\3rdParty\DirectX\DXSETUP.exe). This version of DirectX 9.0C is customized for use with Autodesk products.

Set Up a Source Directory for SCCM

When you use SCCM to deploy Autodesk products, you set up the source directory using the Create Deployment process in the installer.

The Create Deployment process creates an administrative image that is used by SCCM to distribute the Autodesk products to the target systems. The location of the administrative image is the package source directory.

To learn more about deployments and setting up the source directory for Autodesk software, see Understanding Deployments (page 1).

NOTE Before trying to configure SCCM to deploy the product, it is recommended that you test your deployment to ensure that it can install the product successfully.

To test your deployment

1 Log on to a Windows computer as a user who has administrative privileges.
2 Navigate to the source directory where your administrative image was created.
3 Double-click the deployment shortcut created by the deployment process.

The program is either installed, or error information is written to the log file at %temp%.

Create the SCCM Software Installation Package

After creating the source directory using the deployment process, you create the SCCM software installation package. An SCCM package contains the files and instructions that SCCM uses to distribute the software and advertise the

package to users. The deployment process creates the files and instructions, but SCCM must be configured to use these files.

To create a software installation package using SCCM

1. Click Start menu ➤ Programs, or All Programs ➤ Microsoft System Center ➤ Configuration Manager 2007 ➤ ConfigMgr Console.
2. In the Configuration Manager Console window, expand Software Distribution.
3. Right-click Packages ➤ Distribute ➤ Software.
4. In the Distribute Software wizard, click Next.
5. In the Package dialog box, select Create a New Package and Program without a Definition File. Click Next.
6. In the Package Identification dialog box, enter the information for Name, Version, Publisher, Language and any comments. Click Next.
7. In the Source Files dialog box, make selections for where SCCM retrieves the files and how it manages them. Select "Always Obtain Files from a Source Directory". Click Next.
8. In the Source Directory dialog box, specify the location of the source directory. Click Next.
9. In the Distribution Points dialog box, select the distribution point(s). This is the location from which the software package will be deployed to the target computers. Click Next.
10. In the Program Identification dialog box, enter the name of your program. This is the name that displays in Add or Remove Programs in the Control Panel. In the Command Line field, enter **AdminImage\setup.exe /W /Q /I AdminImage\<deployment name>.ini /Lang en-US**. For example, if your deployment is named "Adsk-2012", you would enter **AdminImage\setup.exe /W /Q /I AdminImage\Adsk-2012.ini /Lang en-US**. Click Next.

    NOTE This example assumes the language pack you wish to install is US English. /W is the flag for SMS and SCCM, /Q is the silent install, /I indicates this is a deployment installation.

11. In the Program Properties dialog box, Program Can Run drop-down list, select how you want your program to install. Your choices are
    - Only When a User is Logged On
    - Whether or Not a User is Logged On
    - Only When No User is Logged On

12 In the After Running drop-down list, select an action to take after the program has been installed. Your choices are
   - No Action Required
   - Program Restarts Computer
   - ConfigMgr Restarts Computer
   - ConfigMgr Logs User Off

   NOTE Some products require a system restart after installation.

   Click Next.

13 In the Advertise Program dialog box, select Yes to advertise the program to users. Click Next.

14 In the Select a Program to Advertise dialog box, select the package you want to advertise. Click Next.

15 In the Select Program ➤ Advertisement Target dialog box, select the collection of people to whom you want to advertise, or create a new collection.

16 In the Select Program ➤ Advertisement Name dialog box, enter or change the name of your advertisement. Add any comments to further describe the advertisement. Click Next.

17 In the Select Program ➤ Advertisement Subcollection dialog box, select one of the following options:
   - Advertise this Program to an Existing Collection
   - Create a New Collection and Advertise this Program to It

18 Click Next.

19 In the Select Program ➤ Advertisement Schedule dialog box, if desired, set options to advertise your program at a specific date and time, or set an expiration date. Click Next.

20 In the Select Program ➤ Assign Program dialog box, select one of the following options:
   - If the installation process is mandatory, select Yes, Assign the Program.
   - If the installation process is optional, select No, Do Not Assign the Program.

   Click Next.

21 In the Summary dialog box, verify your advertisement information. Use the back buttons to make any changes. To finish, click Next.

Distribute Products Using Imaging Software

You can use imaging software, such as Norton Ghost, to create a master image to distribute Autodesk products. Once created, the master image can be replicated to other computers throughout your facility.

IMPORTANT Autodesk does not recommend or support the distribution of products using imaging software. However, if you plan to use this method of distribution, please review the following instructions carefully.

The use of imaging software can result in conflicts with product licensing, incomplete installations, and problems with activation.

NOTE If you experience licensing instability in a SATA RAID environment, using imaging software to distribute Autodesk products can cause product activation problems, such as an "Activation code limit exceeded" situation.

Distribute Multi-Seat Stand-Alone Products

You can use a master image to distribute a multi-seat stand-alone product to multiple computers.

NOTE When using Norton Ghost, you must use the *-ib* switch to include the boot sector in your master image. Consult your imaging software for more details on including the boot sector as part of the master image.

Master images should not be created if you have previously run Autodesk products on the master computer. Cleaning the system may be necessary. For more information, see Clean a Master System and Restore the Operating System (page 26).

To distribute a multi-seat stand-alone product to multiple computers using a master image

1. Create a network deployment for a multi-seat stand-alone product. For more information, see Create an Original Deployment (page 8).
2. Install the Autodesk product from the deployment onto the master computer.
3. Do one of the following on the master computer:
   - Create a master image, including the boot sector. Test the product on a machine other than the master computer before distributing

the product. Launch the product on the other machine, and register and activate it. Users have a trial period to register and activate the product on their machines.

- Launch and customize the product as necessary. Create a master image and distribute it to users. If users' computers are connected to the Internet, the product is automatically activated. Users whose computers are not connected to the Internet have a 7-day grace period to register and activate the product.

4 Apply the master image to the target computers.

Distribute Network Licensed Products

You can use a master image to distribute network licensed products.

To distribute a network licensed product to multiple computers using a master image

1 Create a network deployment for a network licensed product. For more information, see Create an Original Deployment (page 8).

2 Install the product from the deployment onto the master computer.

NOTE A license server must be running, and each computer must be connected to the network in order for the product to obtain a license.

3 After the product has been installed, use imaging software to create a master image of the system's hard drive.

4 Apply the master image to the target computers.

Restore the Master Image

The following procedure assumes that you have saved a copy of each computer's *AdLM* folder (and *Product Licenses* folder, if present) to either another computer or a disc before you reformat the computer.

To restore a product using a master image

1 Exit the application. Do not run the application again until after you have completed this procedure.

2 In Windows Explorer, copy the *AdLM* folder from the appropriate path shown below to a location other than the disc that will be restored.

C:\Documents and Settings\All Users\Application Data\FLEXnet

3 Reformat the computer and restore the master image.

NOTE Do not perform a low-level format of the hard drive.

4 Copy the *AdLM* folder that you created in step 2 to its original location on the reformatted computer.

NOTE When you restore the disc image, any files that were altered are put back in their original state and ready to use again. The license files are preserved, and no reactivation of products is necessary.

Clean a Master System and Restore the Operating System

If you have already run your Autodesk product on the master computer, the master computer should be properly cleaned before creating a master image.

To clean a master computer and restore the operating system

1 Clean the hard drive, including the boot sector.

For example, if you use Norton's GDISK utility, use the following command:

gdisk 1 /diskwipe

Where *1* is the hard disk that is being wiped.

NOTE If you use a utility other than Norton Ghost, make sure that it cleans the boot sector; otherwise, you will not be able to activate Autodesk products.

2 Create a new partition and use the restore disc or product media to install the operating system.

Installation Troubleshooting 3

Installation Questions

This section provides answers to some frequently asked questions about installation and deployment. For additional advice and assistance, go to *Autodesk Support*, click your product name, and search in the Knowledgebase for your product.

Licensing Questions

What is the difference between a stand-alone license and a network license?

A stand-alone license supports one or more Autodesk products for an individual user. Similarly, a multi-seat stand-alone license supports a specific number of users. While the software can be installed on additional computers in your facility, the licensed number of users cannot be exceeded.

A network license supports a specific maximum number of users who are connected to a network. A software utility known as the Network License Manager (NLM) issues licenses to users, up to the number of licenses purchased. At this point, no more computers can run the Autodesk product until a license is returned to the NLM.

What is the benefit of using a network licensed version of the software?

Network licensing provides ease of license management for large drafting/design facilities, classrooms, and other environments that need to support many users. The Network License Manager provides centralized control of licenses, including their registration, activation, and distribution to users. One main advantage of a network license is that you can install products on more computers than the number of licenses you have purchased. For example, you can purchase 25 licenses but install them on 40 computers for ease of access. At any one time, products can run on the maximum number of computers for which you have licenses. This means you get a true floating license. A network licensing system can also be configured to allow users to borrow a license for a limited time to use on a computer disconnected from the network.

What is SAMreport-Lite?

SAMreport-Lite is a report generator that helps you monitor the usage of network licenses for products that use FLEXnet™. SAMreport-Lite is not distributed with Autodesk products, but it is available from Autodesk. SAMreport-Lite can help you better manage your software licenses. For more information, click *SAMreport-Lite*.

Deployment and Networking Questions

Where should deployments be located?

It is recommended that you create a network share folder named *Deployments* on the desktop of the system where you want to store deployments. You can then add subfolders named to reflect the products deployed. If you plan to create several deployments of the same product or suite, configured for different user groups, then these deployments can share the same administrative images, and the shortcuts can reside in the same folder. Any subfolders inside a shared folder are automatically shared.

For more information on network shares, see Create a Network Share (page 7).

When should I select all products for the administrative image, and can I add products later?

If you include all products in your deployment, the administrative image will be larger, but you will be able to modify the deployment or create new ones without restrictions. If you select the checkbox "Include only products required by this deployment configuration", the resulting deployment includes a subset of the available products. Any modifications to this deployment, or additional deployments based on the first one, will be limited to the same set of products or fewer.

It is recommended that you include all available products if you plan to create multiple deployments from this administrative image with different product mixes, and prefer not to use the installation media again. If there are products you will never use, or if you do not expect to create additional deployments, you should select a subset of products.

You can create another deployment later, and include additional products, but to do this you need to create a new administrative image from the installation media.

What are the profiles associated with user computer settings?

Profiles are created on the Profiles tab of the Options dialog box. Profiles can contain configuration settings for just about anything that is not a drawing based system variable. For example, a profile can contain things like support paths, grip settings, and plot settings.

When you specify a profile on the Specify User Preferences page during the deployment process, it ensures a standard configuration for all computers that use that deployment to install the product.

What happens if I choose to append or merge service packs?

When you append a service pack, it is applied to the current deployment only. The service pack file is included in the deployment, and the service pack is applied after the product is deployed.

When you merge a service pack, the service pack is merged into the administrative image. Once merged, a service pack cannot be removed from the administrative image.

You can choose to append or merge service packs from the product configuration panel when creating a deployment.

Where can I check if service packs are available for my software?

To find out if a patch or Service Pack is available, visit the Support page for your product at *http://autodesk.com/servicesandsupport*.

How do I extract an MSP file?

This topic applies only to Windows platforms. A Microsoft Patch (MSP) file is usually contained in a Service Pack executable that you download from the Support website for your product. To extract the MSP file from the executable, run the patch program from the Windows command prompt using the */e* switch. The syntax is as follows:

<local_drive:>\<patch_name>.exe /e <local_drive:>\<patch_name>.msp

Pay particular attention to the location where the files are extracted. For details about using the patch file, review the *Readme* file for the patch.

How should I configure a network license server for a firewall?

If you have a firewall between the license server(s) and the client computers, you need to open some TCP/IP ports on the server for license-related communication. Open port 2080 for *adskflex*, and open ports 27000 through 27009 for *lmgrd*.

Uninstall and Maintenance Questions

How can I see what is included in a default installation?

To see what is installed during a default installation, go through the installation process to the Product Configuration page. The products selected here are installed in a default installation. If you click a selected product box to open the configuration panel, you can see the default settings for subcomponents and features.

Is it possible to change the installation folder when adding or removing features?

After your product is installed, you cannot change the installation path. Changing the path while adding features results in program corruption, so it is not an option.

How do I install tools and utilities after installing my product?

Run the installer again from the original media, and click Install Tools & Utilities on the first screen. The installer guides you through the process of selection, configuration and installation of tools and utilities.

When should I reinstall the product instead of repairing it?

Reinstall your product if you accidentally delete or alter files that are required by the program. Missing or altered files adversely affect the performance of your product and cause error messages when you try to execute a command or find a file.

If an attempt to repair an installation fails, reinstalling is the next best option.

Do I need the original media to reinstall my product?

Yes. When reinstalling a product, you are prompted to load the original media. If the product was installed from a network deployment, you need access to the original deployment, unaltered by later changes such as the addition of a service pack.

When I uninstall my software, what files are left on my system?

If you uninstall the product, some files remain on your computer such as files you created or edited (for example, drawings or custom menus).

Your license file also stays on your computer when you uninstall your product. If you reinstall on the same computer, the license information remains valid; you do not have to reactivate the product.

Glossary

4

activate Part of the Autodesk software registration process, it allows you to run a product in compliance with the product's end-user license agreement.

administrative image A collection of shared file resources created by the deployment process and used to install the program to network computers.

deployment The process of installing Autodesk products to one or more computers on a network.

hot fix Autodesk terminology for a minor application patch that contains a few code fixes.

installation image A deployment that consists of one or more MSI files and their associated data files, any associated transforms, additional user-specified custom files, profile, and registry settings.

language pack A set of installed files, used by some Autodesk products, that enable the user to work in the application in the language specified by the language pack.

language family A set of languages (core product, plus language packs) that are distributed together, typically based on a geographic grouping. Languages are not distributed in this way for all Autodesk products.

License Transfer Utility A tool used to transfer a stand-alone license for an Autodesk product from one computer to another, using Autodesk servers. Both the source and target computers require Internet access.

multi-seat stand-alone installation A type of installation in which multiple stand-alone seats of the product are installed using a single serial number.

network license installation A type of installation in which the product is installed on multiple computers, but the distribution of licenses is handled by the Network License Manager.

patch A software update to an application.

service pack Autodesk terminology for a major application patch that typically includes many code fixes.

silent mode An installation that proceeds without any explicit user input. No dialog boxes are presented that require interaction from the user.

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